

COMETS : WHAT DO WE KNOW AND WHERE DO WE GO FROM HERE?

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Since 1980 astronomy has seen a quantum advance in our knowledge and understanding of comets and cometary processes, including a number of surprises. Observations made from Earth-orbit by the International Ultraviolet Explorer and the Infrared Astronomical Satellite revealed unexpected phenomena. Detailed groundbased observations at many wavelengths have helped unlock new cometary phenomena. Spacecraft observations of Comets Halley and Giacobini-Zinner gave us our first close-up, in situ measurements. The collision of Comet Shoemaker-Levy 9 with Jupiter has provided additional insights into these primitive bodies. The next decade will see the development of spacecraft for longer-term, close-up investigation of comets and the return of samples. Our present understanding of comets and future exploration plans will be outlined in this presentation.

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